Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Original) A method for graphics processing comprising:

providing an abstract state vector to a state and shader cache;

determining if a cache entry exists within the state and shader cache for the abstract state

vector wherein the cache entry contains a hardware state and shader vector; and

if the cache entry exists, providing the hardware state and shader vector within the cache

entry to a graphics processor.

2.   (Original) The method of claim 1 further comprising:

providing the abstract state vector to a compiler; and

if the cache entry does not exist compiling the abstract state vector to produce the

hardware state and shader vector for the abstract state vector;

generating a cache entry for the abstract state vector;

writing the hardware state and shader vector to the state and shader cache;

and

providing the hardware state and shader vector to a graphics processor.

3.   (Original) The method of claim 2 wherein the abstract state vector is comprised

of a vertex shader intermediate form, vertex shader constants, pixel shader intermediate form,

pixel shader constants, and abstract render state.

4.   (Original) The method of claim 2 wherein the cache entry within the state and

shader cache is comprised of the abstract state vector and the hardware state and shader vector.

5.   (Original) The method of claim 1 further comprising:

providing the abstract state vector to a compiler;

if the cache entry does not exist, providing a miss signal to the compiler.

6.   (Original) The method of claim 5, further comprising:

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in response to the miss signal: compiling the abstract state vector to produce the

hardware state and shader vector for the abstract state vector;

generating the cache entry for the abstract state vector;

writing the hardware state and shader vector to the state and shader cache;

and

·   providing the hardware state and shader vector to a graphics processor.

7.   (Original) The method of claim 6 wherein the abstract state vector is comprised of a vertex shader intermediate form, vertex shader constants, pixel shader intermediate form, pixel shader constants, and abstract render state.

8.   (Original) The method of claim 7 wherein the cache entry within the state and shader cache is comprised of the abstract state vector and the hardware state and shader vector.

9.   (Original) The method of claim 1 wherein the abstract state vector is comprised of a plurality of abstract state sub vectors, the step of determining if a cache entry exists comprises:

searching for the plurality of abstract state sub vectors in a set of abstract state sub vector arrays; and

if the plurality of abstract state sub vectors are found within the abstract state sub vector array, searching for a composite index in an array of composite indices and hardware state and shader vectors.

10.   (Original) The method of claim 9 wherein if the composite index is found within the array of composite indices and hardware state and shader vectors, a cache entry exists.

11.   (Original) The method of claim 9 wherein a cache entry does not exist where at least one of the following occurs: the plurality of abstract state sub vectors are not found in the set of abstract state sub vector arrays and the composite index is not found within the array of composite indices and hardware state and shader vectors.

12.   (Original) A method for graphics processing comprising:

providing an abstract state vector to a state and shader cache;

providing the abstract state vector to a compiler;

determining if a cache entry exists within the state and shader cache for the abstract state

       vector;

if the cache entry exists, providing hardware state and shader vector within the cache

       entry to a graphics processor; and

if the cache entry does not exist, compiling the abstract state vector to produce the

       hardware state and shader vector for the abstract state vector.

13.   (Original) The method of claim 12 further comprising:

after compiling the abstract state vector:

generating a cache entry within the state and shader cache; and

writing the hardware state and shader vector to the state and shader cache.

14.   (Original) The method of claim 13 further comprising:

providing the hardware state and shader vector to a graphics processor.

15.   (Original) The method of claim 14 wherein the abstract state vector is comprised of a vertex shader intermediate form, vertex shader constants, pixel shader intermediate form, pixel shader constants, and abstract render state.

16.   (Original) The method of claim 12 wherein the cache entry within the state and shader cache is comprised of the abstract state vector and the hardware state and shader vector.

      17.   (Cancelled)

      18.   (Cancelled)

      19.   (Cancelled)

      20.   (Cancelled)

      20.   (Cancelled)

      21.   (Original) The apparatus of claim 22 wherein the state and shader cache stores at least one abstract state vector and at least one hardware state and shader vector.

22.   (Original) The graphics processor of claim 21 wherein the abstract state vector register receives a plurality of input information comprising of vertex shader intermediate form, vertex shader constants, pixel shader intermediate form, pixel shader constants, and abstract render state.

23.   (Original) The apparatus of claim 22 wherein the state and shader cache stores at least one abstract state vector and at least one hardware state and shader vector.

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